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an amount of information to be displayed exceeds a number of lines displayable on said display unit in one frame, the operation of automatically forming a scrolling display being provided without manual operation of a user, the scrolling display incrementally displaying one or more rows of dots sufficient to display a font; and  
designating the display operation.

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#### REMARKS

##### **I. The Drawings Satisfy All Formal Requirements**

Figure 1(D) is corrected to satisfy formal requirements and correct informalities.

Claims 1-3 and 5-33 are pending in this application. By this Amendment, claims 1, 3 and 29-32 are amended, and claim 4 is cancelled. Reconsideration in view of the above amendments and following remarks is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

##### **II. The Claims Define Allowable Subject Matter**

Claims 1-33 are rejected under 37 U.S.C. §103(a) as unpatentable over U.S. Patent No. 4,246,578 to Kawasaki et al. in view of U.S. Patent No. 4,057,849 to Ying et al. and further in view of U.S. Patent No. 6,147,670 to Rossmann. This rejection is respectfully traversed.

None of the applied art teaches, discloses or suggests the display control means causing the scrolling display to be automatically scrolled a plurality of times continuously by said display unit, as claimed in claim 1 and similarly claimed in claims 3, 9 and 29-32.

Instead, Kawasaki describes a pattern generation display system of a CRT, where the width of a font varies according to the type of character displayed. However, Kawasaki does not disclose anything about scrolling. Kawasaki is concerned with providing a pattern

generation display system having a pattern generator for optimizing the pattern pitch corresponding to pattern features and for moving or shifting a pattern by a small pitch.

As set forth in columns 1-3 of Kawasaki, the picture dot pattern is composed of a 5 x 7 dot matrix. Each pattern appears on the CRT screen in a space constituted by 8 picture dots, irrespective of the pattern features. Due to the difference in picture dots, there are different width gaps between characters. Recognizing characters within one word as a whole is important for reading the word quickly. However, due to the teachings of Kawasaki, the data and the pattern generator is stored in such a way that the left edge of the pattern of dots for each character is located at the left edge of the matrix.

Accordingly, there is no teaching, disclosure or even suggestion of the features of the claimed invention. Specifically, there is no teaching that the display control means causing the scrolling display to be automatically scrolled a plurality of times continuously by display unit. There is no teaching or suggestion in any of the applied art for the recited feature.

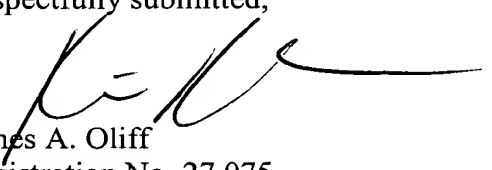
Accordingly, Applicant respectfully requests that the rejection under 35 U.S.C. §103(a) be withdrawn.

### **III. Conclusion**

In view of the foregoing remarks, Applicant submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-3 and 5-32 are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is requested to contact Applicant's attorney at the telephone number listed below.

Respectfully submitted,



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Attachments:  
Appendix  
Request for Approval of Drawing Corrections

Date: March 3, 2003

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## APPENDIX

## Changes to Claims:

The following is a marked-up version of the amended claims:

1. (~~Three~~ Four Times Amended) An information display apparatus, comprising:

a display unit that displays information;

display control means for controlling a display operation of said display unit;

and

an operating unit that designates a display operation of said display unit, said display control means causing a new line of characters to be started wherever it would otherwise be required to break a word across two lines of a plurality of lines of characters of said information, and displaying the plurality of lines of characters of said information on said display unit in a font having a width that varies according to the type of character displayed, and

said display control means controlling the display operation of said display unit so that a spacing between the characters is constant, and said display control means causing said display unit to automatically form a vertical scrolling display a plurality of times continuously when an amount of information to be displayed exceeds a number of lines displayable on said display unit in one frame, the scrolling display incrementally displaying one or more rows of dots sufficient to display the font.

3. (Twice Amended) An information display apparatus, comprising:

a display unit that displays information;

display control means for controlling a display operation of said display unit;

and

an operating unit that designates a display operation of said display unit, said display control means causing said display unit to form a fixed display when an amount of

information to be displayed is not greater than a number of lines displayable on said display unit in one frame, and

said display control means causing said display unit to automatically form a vertical scrolling display when an amount of information to be displayed exceeds a number of lines displayable on said display unit in one frame, the operation of automatically forming a scrolling display a plurality of times continuously being provided by virtue of automatic operation of the display control means and operating unit without manual operation of a user, the scrolling display incrementally displaying one or more rows of dots sufficient to display a font.

29. (~~Twice~~ Three Times Amended) An information display apparatus, comprising:

a display unit that displays information;

a display control device that controls a display operation of said display unit;

and

an operating unit that designates a display operation of said display unit, said display control device causing a new line of characters to be started wherever it would otherwise be required to break the word across two lines of a plurality of lines of characters of said information, and displaying the plurality of lines of characters of said information on said display unit in a font having a width that varies according to the type of character displayed, and

said display control device controlling the display operation of said display unit so that a spacing between the characters is constant, and said display control means causing said display unit to automatically form a vertical scrolling display a plurality of times continuously when an amount of information to be displayed exceeds a number of lines displayable on said display unit in one frame, the scrolling display incrementally displaying one or more rows of dots sufficient to display the font.

30. (Twice Amended) An information display apparatus, comprising:  
a display unit that displays information;  
a display control device that controls a display operation of said display unit;

and

an operating unit that designates a display operation of said display unit, said display control device causing said display unit to form a fixed display when an amount of information to be displayed is not greater than a number of lines displayable in one frame,  
and

said display control device causing said display unit to automatically form a vertical scrolling display a plurality of times continuously when an amount of information to be displayed exceeds a number of lines displayable on said display unit in one frame, the operation of automatically forming a scrolling display being provided without manual operation of a user, the scrolling display incrementally displaying one or more rows of dots sufficient to display a font.

31. (~~Twice~~ Three Times Amended) An information display method, comprising:  
performing a display operation by displaying information;  
controlling the display operation by starting a new line of characters wherever it would otherwise be required to break the word across two lines of a plurality of lines of characters of said information, displaying the plurality of lines of characters of said information in a font having a width that varies according to the type of character displayed, controlling the display operation so that a spacing between the characters is constant, and controlling the display operation by automatically forming a vertical scrolling display a plurality of times continuously when an amount of information to be displayed exceeds a number of lines displayable on a display unit in one frame, the scrolling display incrementally displaying one or more rows of dots sufficient to display the font; and

designating the display operation.

32. (Twice Amended) An information display method, comprising:

performing a display operation by displaying information;

controlling the display operation by forming a fixed display when an amount of information to be displayed is not greater than a number of lines displayable in one frame, and automatically forming a vertical scrolling display a plurality of times continuously when an amount of information to be displayed exceeds a number of lines displayable on said display unit in one frame, the operation of automatically forming a scrolling display being provided without manual operation of a user, the scrolling display incrementally displaying one or more rows of dots sufficient to display a font; and

designating the display operation.